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STYLY UČENÍ U ŽÁKŮ 6. TŘÍDY: PŘÍPADOVÁ STUDIE

LEARNING STYLES OF PUPILS IN 6th GRADE: A CASE STUDY

Bakalářská práce: *51*–FP–*KAJ*– 2013

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Počet

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Zásady pro vypracování:

Cílem práce je:
1) vymezení problematiky
2) na základě studia literatury příprava dotazníku k diagnostice stylů učení
3) analýza individuálních stylů učení ve vybrané 6. třídě základní školy
4) implikace zjištěných poznatků pro výuku angličtiny v této třídě: volba přístupů a aktivit, které budou korespondovat s preferovaným učebním stylem

Metody:
1) studium odborné literatury
2) vyhodnocení vybraných dotazníků

Rozsah grafických prací:

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Farooq M. S., Regnier J. C. 2011. Role of Learning Styles in the Quality of Learning at Different Levels. Informatica Economic, 15 (3): 28-46
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Martina Šepsová

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Anotace:

Bakalářská práce se ve své teoretické části zabývá klasifikací stylů učení, z nichž pro účely výzkumu byla vybrána klasifikace mnohačetných inteligencí dle Gardnera.

Praktická část poté zkoumá zastoupení mnohačetných inteligencí mezi žáky 6. třídy, analyzuje cvičení v 6. lekci učebnice a pracovního sešitu angličtiny používané v této třídě z hlediska mnohačetných inteligencí a navrhuje doplňující cvičení, která respektují výsledky zkoumání v této třídě. Výzkum probíhal na základní škole a podílelo se na něm dvacet sedm žáků ve věkovém rozhraní mezi jedenácti a dvanácti lety, kteří studují anglický jazyk čtyři roky. Hlavním nástrojem pro sběr dat byl dotazník, jehož cílem bylo zjistit zastoupení jednotlivých inteligencí mezi žáky této třídy.

Navržená doplňující cvičení byla vytvořena tak, aby respektovala jazykové cíle učebnic a zároveň aby umožnila jednotlivým žákům demonstrovat jazykové dovednosti dle jejich učebních stylů, aby žákům pomohla se učit pomocí svých rozvinutých mnohačetných inteligencí a zároveň jim obecně pomohla rozvíjet způsoby učení.

Annotation:

In the theoretical part, the bachelor thesis deals with the classification of learning styles. For the purposes of the investigation, Gardner´s multiple intelligences classification was used.

The practical part of the thesis investigates the representation of multiple intelligences among the pupils in 6th grade, analyses exercises in the sixth unit of their English student´s book and workbook from the point of view of multiple

intelligences and suggests extra exercises that respect the results of the survey in the class. The research was conducted at a primary school with twenty-seven pupils aged between eleven and twelve who had been studying English for four years. The main tool for data-gathering was a questionnaire that aimed to investigate the representation of particular types of intelligences among the pupils of the 6th class.

The extra activities, which respected the language aims of the set of the books, were created to help the pupils demonstrate their English language competence through their types of intelligences and to help them to develop their learning styles in general.

Klíčová slova:

Kognitivní styly, styly učení, mnohačetné inteligence, TEFL (výuka angličtiny jako cizího jazyka)

Keywords:

Cognitive styles, learning styles, multiple intelligences, TEFL (teaching English as a foreign language)

Content

Introduction:

The modernization of education has been in process since the time of J. A. Comenius, when the basis of the educational system was founded. During the years various aspects of education have been preferred and nowadays the special attention is given to the development of key competences. In particular, the competence of learning plays an important role.

According to this competence the pupils should be able e. g. to find and categorize pieces of information and to work with them or to be able to conduct their own learning and use effective methods and strategies[1]. Individuality is an important aspect of today´s educational system.

Pupils should concentrate on themselves and learn how to learn. The most important precondition for learning to learn is the pupils´ awareness of their own learning styles so that they could apply the acquired skills consciously and take control over their learning. The value of understanding the learning styles can also help teachers to be more flexible in their teaching and to use a wider range of classroom methodologies. Thus, the implementation of multiple intelligences into EFL lessons is the main subject of the thesis.

The question, however, is whether the learning materials the learners use respect their different learning styles and thus make their learning easier. Therefore, the bachelor thesis focuses on the analysis of the set of textbooks used in EFL classes and tries to design extra activities that would support the individuality of the learners.

[1] Adapted from: www.msmt.cz

1.Theoretical part

1.1 Definition of terms

1.1.1 Learning

People learn during their whole lives. Learning is the basic meaning of life and it is not possible to imagine the life without it. But what is learning? Learning is, in the first place, a process that is unconscious and that proceeds during the whole life, whether we want or not. We learn in many ways – when we listen to others, when we watch what happens around us. On the other hand learning can be a conscious process, in the meaning of receiving new knowledge or skills for managing common actions or coping with life demands as using a computer, sewing or handling a dishwasher. When we learn we broaden our horizons, on the basement of our knowledge we change our attitudes and thus we are able to integrate better in the environment we live in. Learning is thus a fundamental action that happens "when an experience leads to a relatively permanent change of reaction on a particular situation"[2] (Pearce 2008, in Lund 2012, 12).

1.1.2 Style

When somebody says the word „style", many associations can occur. Generally speaking, styles such as musical style, the style of a haircut or the lifestyle are commonly known; however this term is also used in pedagogy or psychology. Mareš (1998) defines style as „the individually different and internally unified way of selection and combination of particular elements and methods. This selection imprints the specific and for the external observer identifiable and definable peculiar

[2] „když nějaká zkušenost vede k relativně trvalé změně reakce na určitou situaci" Translated by the author of the thesis.

character on the final work"[3] (48). Thus the style is a specific way of fulfilling a certain action by an individual. This way generally contains the cognitive style and the learning style.

1.1.2.1 Cognitive style

Cognitive style refers to processes that help to understand the world. It is one way of learning that is classified as the unconscious process of learning. Cognitive style is a specific way people use to perceive or remember information, to think or make solution (Tennant, 1988 and Messick, 1994 in Mareš 1998, 50).

1.1.2.2 Learning style

What is the learning style then? Every person who wants to enrich his/her knowledge uses a different way of learning, either as a conscious or unconscious process. In both cases; however, some people better remember information that can see, others rather listen to new information. These specific ways that an individual uses to learn and remember effectively are called learning styles. Sarasin (1999, in Lojová, Vlčková 2011, 21) says that a learning style is „a certain specific figure of behaviour, according to which a person approaches to learning; a way of perception of information and development of skills and a process of their storage […] It is basically a certain preference or predisposition for perception and processing of information in a certain way or a combination of ways"[4].

[3] „Pojem styl se nyní chápe jako individuálně odlišný a vnitřně jednotný způsob výběru a kombinování dílčích prvků i postupů. Ten vtiskuje výslednému dílu specifický a pro vnějšího pozorovatele identifikovatelný a definovatelný svébytný charakter" Translated by the author of the BA paper.

[4] „Sarasin (1999) charakterizuje styly učení jako určitý specifický vzorec chování, podle něhož člověk přistupuje k učení;jako způsob vnímání informací a rozvíjení dovedností a jako proces jejich uchovávání. […] Je to v podstatě určitá preference či predispozice pro vnímání a zpracování informací určitým způsobem či kombinací způsobů" Translated by the author of the BA paper.

1.1.2.3 Mutual relation between the cognitive style and the learning style

It is evident, that both definitions of the cognitive style and the learning style are close to each other. Therefore; there should be a certain relation between these styles. The opinions of experts vary. Mareš (1998, 53) is convinced that it is possible to find five possibilities of a relation between the cognitive style and the learning style. He claims that „both terms [either] do not have nearly anything in common, both terms partially overlap, both terms are identical, the first is the part of the second, [or] the second is the part of the first.“[5] The diversity of the terms can be excluded on the basement of the previous affirmation about their certain relation. These terms are considered the same for example by Katz or Guild (Mareš 1998, 53).

For the purpose of this bachelor paper the relation will be understood as a part of learning styles, where the cognitive style is a part of the learning style, as Mareš (1998, 55) claims. It means that learning style exceeds the cognitive style. It is because, learning style is richer, it contains more components as a subjective perception or the character of an individual, while cognitive style, characteristic of its impulsiveness and unconsciousness, is just a part of the whole frame.

1.2 Influencing of learning styles

1.2.1 Innate learning style

Everybody is different, therefore has their own preferences, their own styles when learning. One feature of the learning style is an innate learning style, which is determined by innate predispositions and by internal factors. According to Lojová

[5] „[…] oba pojmy nemají téměř nic společného, oba pojmy se částečně překrývají, oba pojmy jsou totožné, první je součástí druhého, druhý je součástí prvního“ Translated by the author of the BA paper.

and Vlčková among the innate predispositions belong for example impulsivity, domination of brain hemispheres and differences between genders; on the other hand, the internal factors comprise age, motivation or psychical states (2011, 29).

1.2.2 External factors

However, there are also external factors that cause a change in our innate learning style. The learning style can be changed either by us or by an influence of the environment.

The first change is often conscious and proceeds mainly in the adulthood. It is often a way of improving the effectiveness of learning by means of a variety of materials and approaches to studying. If a learner tries to apply different ways of learning than the ones he or she usually uses, then they improve their learning.

The second change is even more complex. A pupil has his or her own style but often is forced to learn in a different way because usually has no other possibility. The external factors in this case can be for example the conception of teaching, conditions for learning and mainly the teacher and his or her own teaching style.

The teaching style is, very often, based on teacher´s own learning style. However it has been known for many years that teaching should reflect learners learning styles as Comenius already emphasized and himself applied in Orbis Pictus (Pýchová 1992, 452). Therefore, it is vital that teachers know their own learning styles but they should mainly know the learning styles of their pupils. "The results of surveys show, that the level of results reached [by pupils] is highly conditioned by the concordance of pupils´ learning styles and teacher´s teaching style. The teacher – consciously or unconsciously – prefers processes and activities that are effective for their own learning. Wermut suggests that if a teacher wants to develop the pupils´

ability to conduct their learning, he or she should keep some principles, such as understanding the pupil´s learning style and adapting teaching to this diagnosis, working with different learning styles or changing his or her teaching style (1988, in Mareš 1994, 375). It is basically important to focus on the individuality of a pupil and understand how they differ.

1.3 Classification of learning styles

1.3.1 According to the perceptive preferences

The theory on learning offers various views on the classification of learning styles. One of them divides learning styles according to the perceptive preferences involved in them. They are – visual, auditory and kinaesthetic (VAK). This view is the most common; however, it does not have to be sufficient from the point of view of the individuality in pupils as it contains only three types.

1.3.2 According to the hemispheric dominance

Another view is based on the hemispheric dominance. "In the process of learning both brain hemispheres are active, but their participation in the final success of learning is completely different. [...] Learners with the dominant left hemisphere process information analytically, logically, systematically, sequentially, symbolically, verbally and they rely on reality. People with the dominant right hemisphere have the tendency to process information holistically, completely, intuitively, simultaneously, concretely and they rely more on imaginations and fantasies"[6] (Lojová, Vlčková 2011, 81).

[6] „V procesu učení jsou obě hemisféry aktivní, ale jejich podíl na výsledné úspěšnosti učení je odlišný. […] učící se jedinci s dominantní levou hemisférou zpracovávají informace analyticky, logicky,

1.3.3 According to field dependency and field independency

Another approach to the division of learning styles labelled as *field dependency* and *field independency* studies the way learners acquire, structure and process information. People who are field dependent understand the whole, but it is more difficult for them to recognize smaller components in it. On the other hand people who are not dependent on the field are better in understanding details (Lojová, Vlčková 2011, 55).

1.3.4 According to impulsivity and reflexivity

Learning styles can also be classified according to impulsivity and reflexivity of the learners. An impulsive pupil is quick and bright, while a reflexive pupil works more slowly. On the other hand the impulsive pupil is likely to make more mistakes than the slower, reflexive one. Even though these characteristics could be understood more as a character of a pupil, some authors consider these features as types of learning styles.

1.3.5 According to multiple intelligences

The last approach to the classification explains different ways of learning as different types of intelligence. The theory of multiple intelligences is described in the following chapters.

1.4 Multiple intelligences

1.4.1 Intelligence

systematicky, sekvenčně, symbolicky, verbálně a opírají se o realitu. Lidé s dominantní pravou mozkovou hemisférou mají tendenci zpracovávat informace holisticky, celostně, intuitivně, simultánně, konkrétně a opírají se spíš o představy a fantazii“ Translated by the author of the BA paper.

The term intelligence evokes an idea of either clever or less clever people whose capacity can be measured by an IQ test. The test is composed of several tasks which measure our linguistic, mathematical or logical knowledge. According to the results of the test people are judged and very often ranked, for example, as a genius. However; during the time the objectivity of these tests was infirmed. Intelligence is; after all, something more than just the ability to answer certain questions. Gardner (1999, 10) defines the intelligence as "an ability to solve problems or create products that have value in one or more cultural environments."[7]

1.4.2 Eight types of intelligence

Howard Gardner hands in the theory of multiple intelligences that is somewhat the opposite of the intelligence that is described in the previous paragraph. It tells us, that each of us is clever at something. Everyone has a lot of abilities and preferences that should be taken into account in the description of human cleverness. Therefore he does not speak about one type of intelligence but about eight types of intelligence: linguistic, musical, logical-mathematical, spatial, bodily-kinaesthetic, intrapersonal, interpersonal and naturalistic. Gardner classified these eight types based on certain conditions, such as the foundation of a basic operation or a set of operations that the intelligence works with, process of the development of each type of intelligence or verification of the types by means of experimental-psychological tasks (Gardner 1999, 93).

The important fact is that every person is a „composition" of all eight types of intelligence, but some of them dominate and there can be even just one that is the strongest. As Gardner (1999, 230) emphasizes: „Almost all cultural roles use more

[7] „Inteligence je schopnost řešit problémy nebo vytvářet produkty, které mají v jednom nebo více kulturních prostředích určitou hodnotu" Translated by the author of the BA paper.

than one intelligence; by an activity that belongs to an area where only one intelligence is used is not possible to achieve any satisfactory result.“ Therefore if in the following text is mentioned „a person that is endowed with a certain type of intelligence“ or „a person with linguistic intelligence“ it does not necessarily mean a person with the only one intelligence but rather with the dominating one.

1.4.2.1 Linguistic intelligence

The important and main aspect of linguistic intelligence is a word. Books, magazines, newspapers, advertisements, texts on the internet, emails, reviews, letters, names; all these contain words. They are a part of our lives. However, people handle words in different ways. Someone finds reading and writing really hard, on the other hand someone is a passionate reader and looks for any occasion to read. These people probably have linguistic intelligence. Linguistic intelligence is not only about texts; in a wider context it is judged according to the ability of narrating stories, the richness of vocabulary or the knowledge of foreign languages. Therefore, this intelligence can be divided into two subgroups: written word and spoken word. (Armstrong 2011, 24-28)

Even though the majority of the world population is able to read and write, not all of us are endowed with linguistic intelligence. As far as the written word is concerned, people with the dominance of the linguistic intelligence are able to choose an appropriate word from more possibilities that they have in their minds when writing, they are able to play with words and think up various suitable combinations. These people easily grasp the differences between meanings of words; they basically have a sense for a word. Another presumption is a grammatical and syntactic correctness of a text. The one who has a linguistic intelligence writes texts correctly without deep thinking about the grammar and as well composes sentences

in the correct way according to the syntactical rules or eventually use this rule in a way that the text is still smooth and fluent. (Gardner 1999, 106) In addition, people with linguistic intelligence are able to remember a text quickly and easily. This can help them with learning, but also with receiving information and data from study materials or scientific journals.

In terms of the spoken word, linguistically gifted people have good communicative skills. It is easy for them to recite, persuade, explain or just tell jokes and stories. Linguistically endowed speakers are also interested in the voice of words and are able to work with the sound of words. They are able to choose words that go together phonetically or work with onomatopoeia or other sound components. It is important to mention that it is not necessary to be strong in both written word as well as spoken word to point out the existence of linguistic intelligence. Such a person can be weaker in the written word, or; on the contrary, a bad speaker and still has linguistic intelligence.

1.4.2.2 Musical intelligence

People with musical intelligence like working with melody and rhythm. While linguistic intelligence can be usually recognized when a pupil starts to read and write, musical intelligence can be recognized already at the very beginning of a person´s life. Children are able to play with melody or rhythm much earlier than they use words or even before they are able to speak. „Mechthild Papoušek a Hanus Papoušek […] found out that already two-month-old nurse-children are able to copy strike notes, loudness and the melody of songs and four-month-old nurse-children copy even the rhythmic structure. These two scientists claim that the innate presumptions of nurse-children to distinguish these musical components are much

stronger than their perception to the basic features of speech"[8] (in Gardner 1999, 135).

However, not all of us have musical intelligence, even though music surrounds us all. There is a huge difference in the meaning of the word *music*. For somebody the music means a song sung by a singer accompanied by musical instruments. The person can like music, has their favourite groups or songs and sings the songs. It does not necessarily mean; though, that the person has the musical intelligence. There are thus a group of people that hear melody and rhythm even in a voice of a ridden train or in a singing of birds. These people have sense for the rhythm, distinguish the melody or distinguish when somebody sings clearly or falsely, they compose their own songs or play any musical instrument (Armstrong 2011, 46). These people are likely to have musical intelligence. It is not a rule to have all skills. The skills of musical intelligence can be divided into two parts – singing and playing a musical instrument, and composing. Singing and playing a musical instrument is kind of an interpretation of music while composers make their own music.

1.4.2.3 Logical-mathematical intelligence

Logical-mathematical intelligence is – together with linguistic intelligence – commonly known as the most spread among the society. From the very beginning of children´s education, they are taught reading, writing and counting. It means that they are taught words and numbers. It is typical of many children that when they are not good at reading and writing, they score in counting and vice versa. These

[8] „Mechthild Papoušek a Hanus Papoušek (1982) nedávno zjistili, že už dvouměsíční kojenci dovedou napodobit výšku tónů, hlasitost a melodii písní a čtyřměsíční kojenci napodobují i rytmickou strukturu. Tito dva odborníci tvrdí, že vrozené předpoklady kojenců k rozlišování těchto hudebních prvků výrazně převyšují jejich vnímavost k základním vlastnostem řeči" Translated by the author of the BA paper.

children are likely to have either linguistic intelligence or logical-mathematical intelligence, or they still can have any of the others intelligences.

The main part of logical-mathematical intelligence is logic, which – in terms of this intelligence - can be used in two areas – in mathematics or in science. „The basement of the mathematic skilfulness is the ability to find out the main problem of the task and then to find the solution"[9] (Gardner 1999, 166). A mathematical skill is expressed by fast and precise operations with numbers and figures, a good estimate and memory for statistic data.

On the other hand, all the scientists as biologists, zoologists, biologists or chemists are likely to have mathematical-logical intelligence, as well. They use abstract thinking, they like working with hypotheses and making experiments. Both mathematicians and scientists work with numbers and their work has a lot of common features, but also it is different in some ways. Gardner (1999, 170) says that "the most important ability of a mathematician is the ability to recognize typical structures wherever they occur, and to draw conclusions from the chain of their own thoughts independently of where they lead to. The scientist – as contrasted to the mathematician – has to keep their feet on the ground and be still interested in the way their thoughts are realized in the physical reality."[10]

1.4.2.4 Spatial intelligence

Spatial intelligence is connected with the form and shape of an object. Gardner (1999, 170) says that the spatial intelligence depends on the external objects. It means that it is easy for a person with the spatial intelligence to recognize various

[9] „Základem matematické zdatnosti je schopnost rozpoznat, v čem je hlavní problém úlohy, a pak jej vyřešit" Translated by the author of the BA paper.

[10] „Nejdůležitější schopností matematika je schopnost rozpoznávat typické struktury, ať už se vyskytují kdekoliv, a vyvozovat důsledky z řetězce vlastních myšlenek nezávisle na tom, kam vedou. Vědec na rozdíl od matematika musí stát nohama pevně na zemi a stále se zajímat o to, jak se jeho myšlenky uskutečňují ve fyzické realitě." Translated by the author of the BA paper.

objects that surround him or her and it is easy to work with their forms and shapes. The working is based on scrolling, approximation or displacing these objects just in their minds, without doing it in reality. People with spatial intelligence keep in their minds rather pictures than words when learning. For that reason it is sometimes difficult for them to work at school, where usually words and numbers are fundamental factors, even though they can be very intelligent. There are two-dimensional and three-dimensional spatial intelligence.

Two-dimensional spatial intelligence is expressed in painting. The painter is able to transfer the reality on a piece of paper. He or she is able to describe a precise proportion, is able to place the object correctly, feels the differences between colours. Another area where the two-dimensional spatial intelligence is needed is working with maps or geometry.

Three-dimensional spatial intelligence is important for those who are involved in architecture, movement and orientation in space or modelling. An architect has to be able to imagine the building he or she is working on and they have to be able to draw perfectly three-dimensional objects. It would not be possible without the spatial intelligence. The orientation in space is the most visible feature in people with spatial intelligence. It is called *sense of direction*.

1.4.2.5 Bodily-kinaesthetic intelligence

Body - or its parts – is an important factor in bodily-kinaesthetic intelligence. The question is whether movements can be intelligence. Does the body think when it plays football or sews? Gardner (1999, 231) explains that „among the thinking processes and *mere* physical abilities exist distinctive analogy.“[11] It means that the

[11] „[…] mezi myšlenkovými procesy a “pouhými“ fyzickými schopnostmi existují výrazné analogie“ Translated by the author of BA paper.

brain closely cooperates with the body in the way that the brain gives signals to the body and according to these signals the body moves.

Bodily-kinaesthetic intelligence is needed in doing all kinds of sports when the movement and body are the main parts of it, for example karate, basketball or swimming; on the other hand chess should be excluded. However, bodily-kinaesthetic intelligence is not only important in sports, but also in activities when fine motor skills are needed – sewing, repairing machines or making models of aeroplanes.

To think about abilities needed for these activities, we can say that bodily – kinaesthetic intelligence is often combined with other type of intelligence. Pupils with bodily-kinaesthetic intelligence are probably not the best at school, because they are forced into sitting at a desk and they usually do not have many opportunities during the lesson to apply these abilities. On the other hand they are good sportsmen and sportswomen and they often represent school in various sports or craft competitions. And, even though they could be disadvantaged at school, they do not have to be those less clever. They still can learn through their intelligence, for example when they need to practise mathematic they should make an object thinking about its dimensions, angles and geometry in general (Armstrong 2011, 153).

1.4.2.6 Personal forms of intelligence

The following two types of intelligence – intrapersonal and interpersonal - are called personal intelligences. Both relate to the self of a person, occur at the very beginning of a person´s life and change throughout the life until it gets settled.

When a child is born, he or she fully concentrates on themselves, which means that intrapersonal intelligence wins. This phenomenon lasts until the child starts to meet with contemporaries. „Now [at school days] children turn from

initiative to industry, as their growing independence from the family opens to new influences from peers, school, and community. […] All these developmental changes grow out of the continuous interaction of child and society" (1988 Hoffman, 211). Children make relationships and they care about others and they also can care about what others think about them. Interpersonal intelligence dominates. Even though this is a common process of development of a person, there are factors that make people more interpersonal or more intrapersonal.

Intrapersonal intelligence is based on individualism and self-reliance. A person with a dominating intrapersonal intelligence prefers working individually, he or she better concentrates when he or she is alone. These people know themselves perfectly concentrate on their own thoughts and feelings. School-age children with intrapersonal intelligence can have their youth much harder than children with interpersonal intelligence, as it is known in developmental psychology that in this age children develop relationships and their integration into society. They are often not welcome in the collective and it can hurt them, even though they like working on their own. On the other hand they are often very successful in their aims. With full concentration on themselves and their determination, they easily reach what they want.

The interpersonal intelligence is based on team working. They love working with their friends, spending all the time with friends and they find difficult to work on their own. On the other hand they are reliable and their work usually consists of helping others, as they can understand the others better than themselves. They are also perfect leaders.

1.4.2.7 Naturalistic intelligence

Naturalistic intelligence is connected with the nature. People with naturalistic intelligence have a deep interest in plants, trees, animals and the environment which they live in. People endowed with natural intelligence are interested in cultivating plants and farming animals and they know many kinds of plants and animals. In general they spend the majority of their time outside observing everything that surrounds them. At school their favourite subject is biology and their preferred way of learning is learning outside. This can be the reason they usually do not like sitting at school and they are not able to concentrate. These pupils prefer to see everything in reality, not in books – visit museums, do excursions, observe birds in a park and animals in the zoos. This would be the best way to learn. Even though they do not have many opportunities at school they can benefit from these natural abilities for studying at home. They can recycle and learn many important things about the environment of the world, which serves for the general knowledge. They can observe stars and train their estimate for mathematic or they can read magazines about the nature and practise the language.

1.5 Multiple intelligences in learning English

The previous part mentions the best way of learning through each type of intelligence in general and this part concentrates on using multiple intelligence while learning English. English is divided into learning skills and systems. The term *learning systems* means the acquisition of knowledge of pupils in English. They are vocabulary, grammar, pronunciation, function and discourse. Learning skills are more about the ability of pupils to use English. The skills are reading, listening, writing and speaking. This division will be taken into account in the practical part while suggesting extra exercises.

2 Practical part

2.1 Research on Multiple Intelligences

2.1.1 Purpose of the study

The theoretical part defines basic terms that are connected with different learning styles, introduces various classifications of learning styles and leads to the classification of Howard Gardner that is fundamental for this work and that is well-known as multiple-intelligences theory. Moreover, the theoretical part specifies the application of multiple intelligences in learning a foreign language. All these facts are important for the following, practical part, the aim of which is to investigate the representation of multiple intelligences in an EFL class. Based on the results from the investigation, extra activities that would complement a common English textbook will be designed. These activities will respect the pupils´ different types of multiple intelligences.

2.1.2 Research questions

The research questions focus on two main aspects of the work – the pupils and their types of multiple intelligences and the representation of these types of multiple intelligences in the books they work with. Therefore, the research questions are divided into two groups of questions. As far as the first group of is concerned, the paper attempts to answer these questions:

1. What types of intelligences are represented in the class investigated?
2. Are there all types of multiple intelligences represented in the class?
3. Do any of the intelligences prevail?

In connection with the second group, the following questions will be answered:

1. Do the books respect the variation of pupils´ multiple intelligences?
2. Are there activities that support particular types of intelligence in the book?
3. Is it possible to supplement a textbook so that it would respect a missing intelligence and would fit the theme of a unit?

2.1.3 Data-gathering method

A questionnaire was the main tool for data-gathering. This method has come into widespread use in investigating an extensive range of problems, especially in quantitative researches (Gavora 2000, 99). The questionnaire designed[12] for this work consists of six questions for each type of intelligence, i.e. forty-eight questions altogether. A three-point Likert scale was chosen to mark responses, where '0' marked disagreement with the statement, '1' marked not being convinced of either way, and '2' marked strong agreement. The questions were formulated in the Czech language so that they would be comprehensible for the pupils and thus they could concentrate on the content rather than on the translation of the questions. The other reason for this choice was the simplicity of the form of the questions corresponding to the age of the pupils.

2.1.4 Participants

The research was conducted at a primary school in Jičín in the 6th class. The reason of choosing the 6th class was the fact that my qualification refers to the lower-secondary school teaching. There were twenty-seven pupils aged between eleven and twelve participating in the survey. The class was mixed with twelve boys and fifteen girls. They had been studying English for four years and they were divided into two

[12] Adapted from: http://svp.muni.cz/ukazat.php?docId=476

groups during common English lessons; however, for the purpose of filling the questionnaire they were put together in one class.

The pupils answered the questions during an English class. At first they read the questions themselves, then their questions about what they had not understood were answered and finally they started completing the whole questionnaire, which took thirty minutes. During that time the pupils were fully concentrated on the work. Consequently they were curious about their results, which was beneficial for the pupils who could learn something new about themselves and thus possibly improve their approach to learning. I distributed twenty-seven questionnaires and all were properly completed and therefore suitable for the survey. The results follow.

2.1.5 Results of the research

Based on the summarization of the pupils´ responses to forty-eight questions that aimed to map the pupils´ different types of multiple intelligences, the following allocation of multiple intelligences was found out.

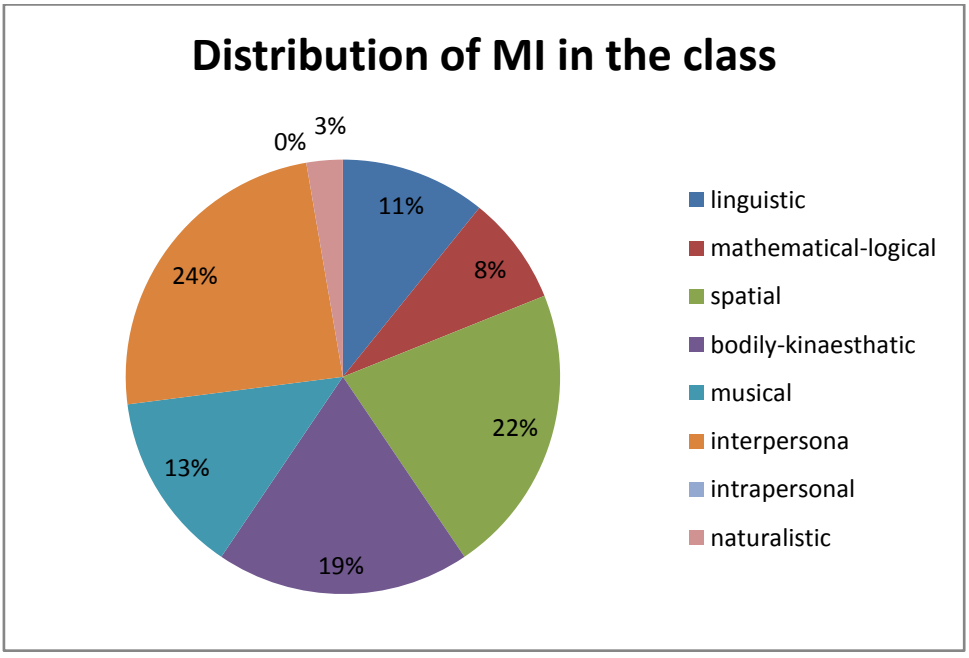


Figure 1: The distribution of multiple intelligences in the class.

The graph in Figure 1 shows that certain intelligences are dominant, while other types of intelligence are less represented or are absent at all.

A big number of pupils (24%) demonstrated a strong preference for interpersonal intelligence, which is not surprising at their age, when children develop their relationships with their peers. In the second place there is spatial intelligence, in third bodily-kinaesthetic followed by musical intelligence. Quite surprisingly linguistic and mathematical-logical intelligence are not so developed among the pupils of this class, even though they are traditionally admitted as general intelligences and therefore frequently assessed. Naturalistic intelligence occurs once, while intrapersonal is not represented at all. The important thing to point out is that twenty pupils have one type of intelligence most developed; however, there are four pupils with two types of intelligence and three pupils with three types of intelligence most developed. This result is in compliance with Gardner´s idea mentioned in the theoretical part, that all people have all types of intelligence; however, some of them can be more developed than others.

2.2 Analysis of the set of books Project 2

The results of the investigation of the types of intelligence that occur in the class surveyed, the next step is going to be the analysis of the book the pupils use in their EFL classes. The aim of the analysis is to find out to what extent the activities in the textbook respect different multiple intelligences and consequently suggest additional exercises that were not found in it. The set of books Project 2 by Tom Hutchinson published by Oxford University Press 2010 used in the class consists of a *Student´s book, Workbook and Teacher´s book.* For the purposes of the thesis, the *Student´s book and the Workbook* were analysed because the pupils regularly use

them in their classes. The *Teacher´s book* was not analysed because it serves only as a guide for the teacher, who can but does not have to follow all the advice it gives. Both the *Student´s book* and the *Workbook* are divided into two parts: a part which is entitled *Introduction* and a part that consists of six units focusing on various topics. Each unit of both the *Student´s book* and *Workbook* is divided into five parts – parts A, B, C, D and a part called "Your project". Each part is described in chapter 2.2.2 called *Types of exercises in the Student´s book.*

For the purposes of the bachelor thesis the sixth unit of the book was chosen, so that the pupils as well as their teacher can benefit from the results of the thesis. This unit deals with the topic of *Entertainment.*

2.2.1 Unit 6 – *Entertainment*

The analysis concentrates on types of exercises in each part of the unit and investigates which types of intelligence each exercise supports. In order to evaluate a particular exercise the following categories of tasks that represent each type of intelligence were used. These categories were developed on the basis of the conclusions from the theoretical review by the author of the thesis.

Linguistic intelligence is supported by exercises such as:

- Write these words.
- Rewrite the sentences.
- Write the dialogues.
- Read the text.
- Listen.

Logical-mathematical intelligence is supported by exercises such as:

- Write these words in order of frequency.

- How many words can you make with the letters given?
- Make the adverbs from the adjectives.
- Follow the letters in the wordsquare.
- Complete the sentences.

Spatial intelligence is supported by exercises such as:

- Complete the table.
- Look at the pictures.
- Number the pictures in the correct order.
- How many words can you make with the letters?
- Match the opposites.

Bodily-kinaesthetic intelligence is supported by exercises such as:

- Act your story.

Musical intelligence is supported by exercises such as: (these exercises occurs only in the part called *Your project*)

- Find the words that rhyme.
- Listen to the poem and check.
- Listen. Which syllable has the /ə/ sound?

Intrapersonal intelligence is supported by exercises such as:

- How often do you do these things?
- Write five things you have to do.
- Answer the questions.
- What jobs do you think the people do?
- What do you like the best?

Interpersonal intelligence is supported by exercises such as:

- Ask and answer with your partner.
- Work with two friends.
- Act the story.
- Discuss the topic with your partner.
- In groups of four write the first part of the story.

Naturalistic intelligence can be supported by exercises such as: (however, it is not supported by any exercise in the books)

- Describe these animals.
- Think about the environment.
- Work with these pictures of nature.

2.2.2 Types of exercises in the Student´s book

Generally, each part A-D starts with a text which is accompanied by various exercises, mostly focusing on comprehension of the text. Each part A-D also includes a grammar section, particularly concentrating on adjectives and adverbs of frequency, the verb *have to* and on making suggestions. Communication practice and skills development section are also included in these parts.

Part A

Part A starts with a "read and listen" exercise, which is an exercise that is suitable for pupils with linguistic intelligence. In the grammar section of part A there are mostly "complete the table" exercises supporting both logical-mathematical and spatial intelligence. There is also a writing and speaking section, where writing supports linguistic and intrapersonal intelligence, while speaking helps to develop interpersonal intelligence using "ask and answer with a partner" exercises.

Part B

Like part A, part B begins with a “read and listen” exercise, but furthermore it develops this exercise by adding a “number the pictures in the correct order” exercise, which addresses students with logical-mathematical as well as spatial intelligence. The grammar section consists of “complete the table” exercises suitable for pupils with spatial intelligence. The writing part requires the pupils to work in groups, and continues with an “act your story” exercise, which is adequate for pupils with well-developed bodily-kinaesthetic intelligence.

Part C

This part again starts with a “read and listen” exercise and continues with “complete the table/sentences” exercises in the grammar section. As has already been mentioned, these exercises support linguistic, logical-mathematical, spatial and intrapersonal intelligences. The speaking part helps students with interpersonal intelligence.

Part D

In the last part there is not only a “read and listen” exercise at the very beginning but also an “act your story” exercise, where the pupils with bodily-kinaesthetic intelligence can realize their potential. The grammar section and speaking section, moreover, develop logical-mathematical, spatial and interpersonal intelligence by exercises such as “complete the table”, “match the cues to the correct pictures” or “work with a partner”.

Your project section

This part focuses most on intrapersonal intelligence as the pupils have to think about their favourite actors, books or films and do a project about these issues. The pupils can do the project in whatever way they like; therefore they can utilize their own types of intelligence. Additionally, at the very end of this unit there is a pronunciation practice and a poem to work with and this is the best way to help students with musical intelligence. The overview of the multiple intelligences represented in different activities is presented in Figure 2.

Intelligence/part	A	B	C	D	Project
linguistic	✓	✓	✓	✓	✓
logical-mathematical	✓	✓	✓	✓	–
spatial	✓	✓	✓	✓	–
bodily-kinaesthetic	✗	✓	✗	✓	–
musical	✗	✗	✗	✗	✓
intrapersonal	✓	✓	✓	✓	✓
interpersonal	✓	✓	✓	✓	–
naturalistic	✗	✗	✗	✗	–

Figure 2: Representation of multiple intelligences in exercises and tasks in the *textbook.*

This chart shows that activities based on linguistic, logical-mathematical, spatial, intrapersonal and interpersonal intelligences are presented in each part. Pupils with bodily-kinaesthetic intelligence will make the most of parts B and D. However, exercises that support musical intelligence occurs only in the last part entitled "Your project", while naturalistic intelligence is not represented at all.

2.2.3 Types of exercises in the Workbook

The workbook deals more with the grammar and vocabulary practice and focuses mainly on linguistic and intrapersonal intelligences contains also some exercises focusing on logical-mathematical and spatial intelligences. However, it does not support any other type of intelligence. In general the most common exercises in all the parts are "write sentences" suitable for linguistic intelligence, "write these words in the right order" for logical-mathematical intelligence and "match two words" appropriate for spatial intelligence. All these activities also challenge intrapersonal intelligences as Figure 3 shows.

Intelligence/part	A	B	C	D
linguistic	✓	✓	✓	✓
logical-mathematical	✓	✓	✓	✓
spatial	✓	✓	✓	✓
bodily-kinaesthetic	✗	✗	✗	✗
musical	✗	✗	✗	✗
intrapersonal	✓	✓	✓	✓
interpersonal	✗	✗	✗	✗
naturalistic	✗	✗	✗	✗

Figure 3: Representation of multiple intelligences in exercises and tasks in the *workbook.*

This chart clearly shows that the linguistic, logical-mathematical, spatial and intrapersonal intelligences are represented in each part, while other types of intelligence do not occur in any part.

In general, the set of Project 2 books (particularly the student´s book and workbook) is based on the most typical types of intelligence, which are linguistic, logical-mathematical, spatial and the two personal forms of intelligence. However, there are also other types of intelligence that are not represented as much; yet, there are pupils with these intelligences and this should be taken into account.

2.3 The book vs the class

The analysis of the textbook provided the basis for the comparison of the types of the textbook activities with the pupils´ multiple intelligences preferences.

Figure 4 illustrates the representation of types of intelligence in the class and also shows whether or not they are supported by exercises in each part of unit 6. Because activities in the *Student´s book* should be followed by further practice in the *Workbook*, the data in parts A, B, C and D were collected from both books. The *Project part* is not included in Figure 4, as it is usually suitable for all types of intelligence.

In all their parts the set of books offers enough exercises for the most typical types of intelligence, which are linguistic, logical-mathematical and spatial and also two personal forms of intelligence. Bodily-kinaesthetic intelligence is challenged by exercises in parts B and D and musical and naturalistic intelligence is not supported in any part. However, in the class there is quite a large number of pupils who show dominance in bodily-kinaesthetic and musical intelligence. There is only one pupil with naturalistic intelligence, but even this pupil should make the most of his/her learning by suitable exercises. The intelligences that are not represented in the class are highlighted in Figure 4. In the following part of the bachelor thesis some extra exercises for the types of intelligence that are not supported by the books are suggested.

Type of inteligence	Pupils	Part A	Part B	Part C	Part D
Linguistic	4	Yes	Yes	yes	Yes
logical-mathematical	3	Yes	Yes	yes	Yes
Spatial	8	Yes	Yes	yes	Yes
bodily-kinaesthetic	7	No	Yes	No	Yes
Musical	5	No	No	No	No
intrapersonal	9	Yes	Yes	yes	Yes
interpersonal	0	Yes	Yes	yes	Yes
naturalistic	1	No	No	No	No

Figure 4: Absence of multiple intelligences in the pupils and in the set of books.

2.4 Applying multiple intelligences to practice

The comparison of the types of exercises with the pupils´ multiple intelligences preferences shows that not all multiple intelligences are respected in the *Student´s book* together with the *Workbook*. To help all the pupils involved in the investigation to learn English through their types of intelligence some extra exercises that respect the topic of the particular part as well as the types of intelligence absent in the textbook are suggested by the author of the thesis.

Bodily-kinaesthetic intelligence could be supported by activities such as:

- Express yourself by miming.
- Find the information you need within your classroom.
- Line up according to the grammatical correctness of the sentence.
- Put the cards in the correct order.

Musical intelligence could be supported by activities such as:

- Listen to the tune and find out which musical instrument is being played.

- Listen to the song and fill in the missing words.
- Compose a song/poem using the words given.

Naturalistic intelligence could be supported by activities such as:

- Write five sentences about what is happening outside right now.
- What aspects of entertainment are not good for the environment?
- What do we have to do four our pets?
- In groups of four think about your ideal holiday. Write a story about it. In the story you have to use five adverbs.

On the basis of these types of exercises extra activities that complement unit 6 in *Student´s book* and *Workbook* of Project 2 were designed. They are described in the following part.

Bodily-kinaesthetic intelligence –Part A

- Type of exercise

In order to support learners with bodily-kinaesthetic intelligence in part At the grammar section was chosen. The pupils practise adverbs of frequency in this section – specifically *always, often, usually, sometimes* and *never*. There are five tasks to complete in which adverbs of frequency must be used. The tasks mainly focus on the position of an adverb in a sentence. In the fourth task the pupils have to look at the sentences from the previous exercise and answer the question: *Where do we put the adverbs of frequency –with a normal verb?*

- *when there is an auxiliary verb?*
- *with the verb to be?*

After completing this task an extra exercise supporting the pupils with bodily-kinaesthetic intelligence has been prepared.

- Description

The pupils come to the teacher one by one and pick up a card. On the card, there is either an adverb of frequency and a verb (1) or a verb/noun and some additional information (2). For example:

(1) often/go to the cinema?, usually/be at home?, sometimes/can sleep?, never/watch a video?

(2) cinema/ on Friday, at home/on Saturday evening, sleep/at my friend´s house, a video/with my best friend

They are supposed to go around the classroom and ask various students: "Do you often go to the cinema?

If the second pupil does not have a card where the cinema is mentioned, the answer should be: "No, I don´t often go to the cinema."

If he/she does have the card, the answer will be: Yes, I often go to the cinema on Friday.

The teacher goes around and checks that pupils´ questions and answers are correct. When the pupils find each other within the pair, they say their dialogue to the teacher. When all pupils have found their pairs, the teacher tells the pairs where to line up according to the position of the adverb of frequency in their sentences (a normal verb, an auxiliary verb or the verb to be).

- Justification

This activity is a type of mingling activity when the students

- are required to move around the classroom and therefore their bodily-kinaesthetic intelligence is addressed.
- deal with the grammar rule and thus the linguistic intelligence is supported.

- must cooperate with a partner; therefore, interpersonal intelligence is developed.

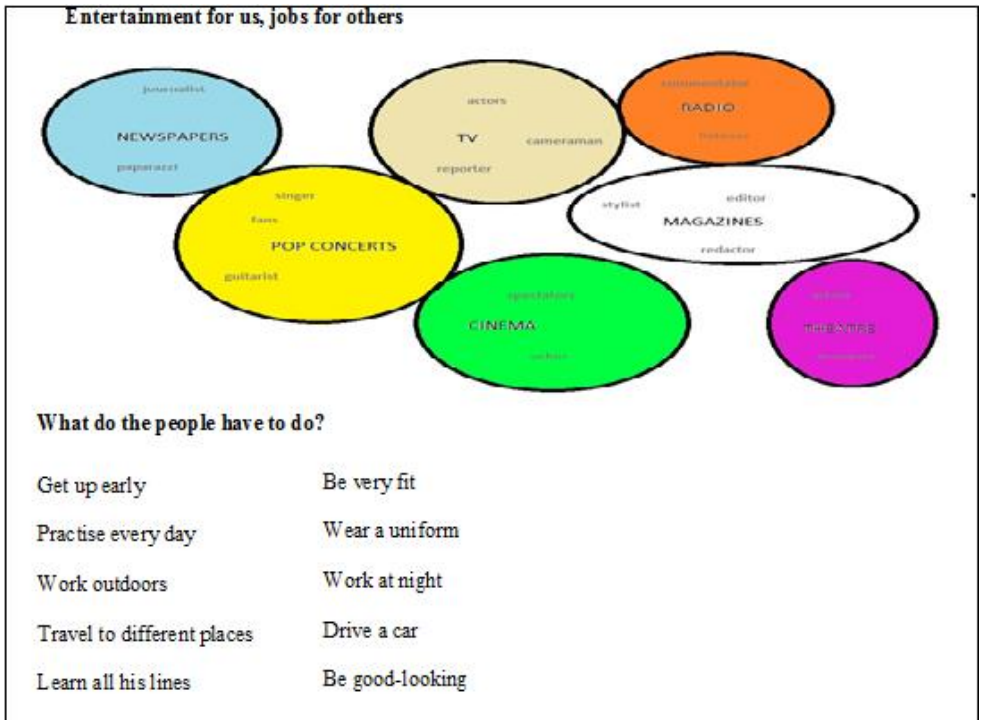
Bodily-kinaesthetic intelligence, part C

- Type of exercise

For supporting the learners´ bodily-kinaesthetic intelligence in part C the grammar section, where the verb "have to" is practised, has been chosen. The following extra exercise may be a bit more difficult because it works with extra vocabulary. However, it also involves the vocabulary from part A and links together with the reading activity of part C and therefore it is appropriate for the pupils.

- Description

The pupils are given the following handouts.



The pupils are divided into two teams. The main task is to choose a pupil from a team who goes to the front of the classroom. The pupil thinks of one job from the handout. Then the pupil mimes the job and the teams in turns ask questions such as: "Do you have to get up early?" Answer: "No, I don´t./Yes, I do". When one team is sure about the job, they can ask: "Are you a reporter?" If this guess is correct, the team gets two points. If not, the team loses one point. The pupils exchange at the front of the class until they have all performed or until the teacher stops them. The winners are those with the most points.

- Justification

Miming is one of the best activities that can help students with bodily-kinaesthetic intelligence to make the most of their learning as it is the opportunity to learn by movements. The whole activity also develops linguistic intelligence because the pupils learn new vocabulary. Finally, as the pupils have to cooperate in teams so that they would win, the learners with interpersonal intelligence have a chance to succeed as well.

Musical intelligence – part A

- Type of exercise

To support musical intelligence, the comprehension section of the book has been chosen, in which there are two main tasks. The first task lists various forms of entertainment, such as newspapers, theatre, television and also music. The students have to find in the text which of these things the text is talking about and what it says about each thing. The second part focuses on kinds of films and programmes and asks the students which they like best.

- Description

The extra exercise links to this question and also starts with a question; however, the question is about music. “Do you like listening to music?” “Which music style do you like best?” After discussing these two questions, which serve as a pre-listening activity, the teacher tells the students the main task, which is listening to various music styles and identifying them. They are given these handouts:

Match the numbers with the musical styles you hear

Sample 1	CLASSICAL
Sample 2	REGGAE
Sample 3	COUNTRY
Sample 4	DISCO
Sample 5	BLUES
Sample 6	HIP HOP

In the while-listening part pupils have to listen to six samples of music styles and match the number of the sample with the music style they hear.

In the post-listening part the teacher asks the students what they know about these music styles, which musical instruments are played in them and whether they like them or not.

- Justification

This activity focuses on the topic of the whole unit 6 and it serves as a useful introduction to the unit not only for pupils with the most developed musical intelligence but also for the rest of the class as it changes the typical lesson routine. The activity demonstrates the type of a task that allows the teacher to practise particular language skills in a mode that suits pupils with musical intelligence.

Musical intelligence, part B

- Type of exercise

In the grammar section in part B pupils learn the difference between an adjective and an adverb. Their task is to complete a table, then identify the suffixes of adverbs and find more adverbs in the previous story. In task "c" they complete sentences with adverbs or adjectives and in the last part of the grammar section they choose the correct word (adverb or adjective) to complete sentences. To help pupils with musical intelligence to deal with this grammar, a "Listen to the song and fill in the missing words" exercise has been chosen.

- Description

The pupils are given the following handouts with a song where some of the words are missing. The teacher tells them what the song is about and what they are supposed to do.

Listen to the song and fill in the missing words.

2x A noun is the name of a person, ... or thing,
like Mike in Morecambe with a ball of string.

2x An adjective describes a .....,
like a ....., wide smile on a painted clown.

1x Verbs, verbs are doing words.
They ..... and ..... like the birds.
Or, like in ..... and .....,
you might add an "ing".
You can ..... or dance and .....
Adverbs like to add to a .....

They tell you more about the word.

You can often add an "...ly" on the end,

like ..... walk or ..... bend.

Source: https://www.youtube.com/watch?v=hjaFrR2FW48

After listening to the song, the pupils will check the right answers and comment on the information about adjectives and adverbs they got. They will be able to use this knowledge in all the following exercises in the grammar section of part B.

- Justification

This exercise is a typical listening exercise that requires learners to pay attention to details. It also meets the needs of the learners with musical intelligence since they listen to music rhymes and rhythm through which the grammar is practises.

Musical intelligence, part C

- Type of exercise

The extra exercise in part C is added to the last part which is entitled *Listening, writing and speaking.* This part focuses on various jobs. There is a listening exercise about what the three people from the pictures do. The next exercise wants the pupils to write about the people and in the last exercise they work with a partner talking about jobs and people´s duties in these jobs. Right before this exercise an extra exercise is added, which reminds pupils of various jobs and consequently helps them with the last exercise when they need to think of jobs and particular vocabulary.

The pupils listen to a song about jobs. They are given the following handouts with the lyrics of the song.

Listen to the song and underline all the jobs you hear. Then match each job with the correct picture.

Source: http://www.youtube.com/watch?v=JBXaupIJHr8

I see a fire-fighter fighting fires
I see a car mechanic changing tires
I see a pilot flying through the air
I see a barber cutting people´s hair.

I see the people in my town and I say: "Hey brother. What´s going down?"

I see a postman with the mail
I see the police putting folk in jail
I see the lifeguard at the swimming pool
I see the teachers in the local schools

I see the people in my town and I say:
"Hey brother, what´s going down?"

Doctors, nurses, astronauts,
Judges, lawyers in the courts.

I see an actor acting on the stage
I see a writer writing on a page.
I see a chef working in a restaurant
and a waiter asking what you want.
I see the people in my town and I say:
"Hey brother, what´s going down?"
Doctors, nurses, astronauts,
Judges, lawyers in the courts.
I see the people in my town and I say:
"Hey brother, what´s going down?"
I say: "Hey brother, what´s going down?"

Source: www.google.cz

Their task is to underline all the jobs they hear and after the listening they will match the underlined jobs with the pictures on the handouts.

- Justification

The exercise can help not only pupils with musical intelligence but the following matching the text with a relevant picture can also help pupils with spatial intelligence. The whole exercise also supports linguistic intelligence as the pupils work with words.

Musical intelligence, part D

- Type of exercise

In part D the grammar section where the pupils learn to make suggestions in English has been chosen. They should be able to say sentences such as: "Why don´t

we go the the park today?" or "Let´s go to the cinema today." The extra exercise can be used in any part of the grammar section; however, it is better to use it at the end as an extra exercise that focuses on practising making suggestions.

- Description

The pupils make pairs or groups of three or four. The teacher tells them to choose one of the envelopes given. In each envelope there are different words that rhyme such as:

1, Today – yey, hey, no way, delay, play, away, day, pay

2, Zoo – blue, knew, you, do, view, flu, shoe, true

3, Song – long, wrong, along, Hong Kong, tongue

4, Shop – stop, top, mop, bus stop, non stop, hop

5, Volleyball – all, call, fall, small, wall, hall, doll

The task consists of making suggestions and answering them. However, to support musical intelligence, everything has to rhyme and when performing, the pupils have to recite or sing. Therefore, the first pupil thinks up a suggestion using the first word – today, zoo, song, etc. The second pupil/the rest of the group answers the suggestion using other words that rhyme. (Or they can think up their own words that would rhyme.)

The finished task could look like this:

Student A: "What about going to the swimming pool today?"

Student B: "Yey!"

Student C: "Yes. It is a beautiful day."

Student D: "No. I do not want to pay."

After thinking up the rhymes each pair/group sings or recites them. The rest of the class listens to them and gives them points from one to five. At the end, the points are counted up and the pair/group with the most points wins.

This activity can be modified by using musical instruments or various melodies to make it even more supportive for musical intelligence. It can be great fun for the pupils who learn at the same time.

- Justification

By means of this challenging task the musical intelligence is developed, because the rhyming is used. This activity also develops the interpersonal intelligence as the pupils have to cooperate and linguistic intelligence because they work with words.

Naturalistic intelligence, part A

- Type of exercise

To apply an extra activity the grammar part where adverbs of frequency are taught has been chosen. An activity focusing on animals, which is suitable for naturalistic intelligence, has been prepared.

- Description

The pupils are given handouts showing five animals. There are also five questions asking general information about animals. Each pupil will answer all the questions, but it does not matter which animal they choose for each question. They can choose one question for one animal or they can also answer all the questions about one animal. They have to use an adverb of frequency in each answer. (see the handout below)

It could look like this:

Q: What colour is it?

A: The polar bear is always white.

Look at these pictures and think about the following questions. Answer the questions using adverbs of frequency.

1, Where does it live?
2, When does it sleep? Does it sleep at night?
3, Does it live alone or does it live in groups?
4, What colour is it?
5, What does it eat? Is it a plant eater or a meat eater?





Source: www.google.cz

- Justification

This activity can help mainly pupils with naturalistic intelligence most developed because it works with animals but it can also help the others to find out some interesting facts.

Naturalistic intelligence, part B

- Type of exercise

In part B, the writing section has been chosen for adding an extra activity that could help pupils with naturalistic intelligence. The writing in this part focuses on the previous text the pupils have already read. The text is set in the past and it is a sort of a detective story. The first task in the writing part is to answer four questions about the text, the second task is to work with three friends and write the first part of the

story and the third task is to act the story. To involve the pupils with naturalistic intelligence, I would let all the pupils make a choice between two topics of the writing (and/or acting).

- Description

The first topic is given in the book and the second is my extra activity. They could also choose a topic: Our field day. Those who choose this topic would create an interesting story about their stay in the countryside. The questions for this topic would be the following:

- Where were you?
- Why did you go there?
- What happened?
- How did you survive?

The pupils make small groups of three or four according to the topic they have chosen. The teacher has to make sure there are enough pupils for both topics. When they have prepared their stories, they can act them out.

- Justification

This activity can help all the students to use their imagination and especially pupils with naturalistic intelligence as they can be a bit closer to nature, even though they are sitting in the classroom.

Naturalistic intelligence, part C

- Type of exercise

In part C there is a grammar section, where the students are to learn the verb *have to*. This can be a good task for supporting naturalistic intelligence. The task requires learners to think of activities that would make our environment better to live in.

- Description

The pupils work in pairs and each pair is given a handout where some ideas are pictured. The pupils need to find five things that people have to do for the environment and then all the pairs write their ideas on the board. They are commented on afterwards in a whole class discussion. The pupils are forced into using not only the pictured ideas but also their own ideas. See the handout below.

- Justification

Even if the main aim of this exercise is to guide pupils to practise the verb *have to* it is also appropriate for pupils with naturalistic intelligence as it dedicates to the environment, which people with naturalistic intelligence are close to. As the pupils have to work in pairs, the interpersonal intelligence is also supported.

Naturalistic intelligence, part D

- Type of exercise

At the beginning of part D there is a text about a penguin, which should be taken to the zoo. The task is to read and listen to the story and to find the subjects of following sentences. This means that it clearly has just a while-reading/listening part

and post-reading/listening part, but there is no pre-reading/listening part. Therefore, an extra pre-reading/listening exercise that follows has been created to support naturalistic intelligence.

- Description

The teacher tells the pupils that they are going to read/listen a text about a penguin, which should be taken to the zoo, and asks them what they think it is like to work in a zoo. They can choose from various jobs that can be done in the zoo and each of them should think of two advantages and two disadvantages of the job. Then the teacher asks random pupils about their opinions.

- Justification

The pupils with naturalistic intelligence appreciate this pre-reading/listening activity as it focuses on their field of interest. This activity also suits all pupils that like animals. Moreover, it is a great link to the following text, as the pupils already know what it will be about and it can help them with the comprehension of the text.

2.5 Discussion

The review of the literature dealing with the theory of multiple intelligences and the findings from the practical investigation helped to create a basis for the evaluation of the research. Thus, the following part attempts to answer the research questions stated at the beginning of the practical project.

As far as the types of multiple intelligences of the pupils are concerned, the research showed that there are not represented all types of intelligences in the class. The Gardner's classification of multiple intelligences presents the theory that speaks about eight types of multiple intelligences, while in the class there is the representation of seven: linguistic, logical-mathematical, spatial, bodily-kinaesthetic,

musical, interpersonal and naturalistic. However, naturalistic intelligence is represented in one pupil and intrapersonal intelligence is not represented in the class, at all.

This conclusion can be in compliance with the fact that nowadays the interests of pupils focus more on technological conveniences rather than naturalistic issues. As Armstrong (2000, 7) supports: "Certain intelligences seem to have been more important in earlier times than they are today. Naturalist and bodily-kinaesthetic intelligences, for example, were probably valued more a hundred years ago in the United States, when a majority of the population lived in rural settings and the ability to hunt, harvest grain, and build silos had strong social approbation. Similarly, certain intelligences may become more important in the future" (Armstrong 2000, 7).

The absence of intrapersonal intelligence can be explained by using the theories of developmental psychology. Hoffman at al. (1988, 245-254) claims that the influence of social interaction at schools can be extremely important for the whole development of a child. Children want to succeed within their peer groups and usually try to join in social activities. They compare themselves and they do not want to be isolated from the others. On the other hand, at this age they are not mature enough to work only on their own or to make important decision and that might be the reason for that there is no representation of intrapersonal intelligence in the class.

The research also showed that the types of multiple intelligences are not distributed equally. There are three types of intelligences in the class that prevail – interpersonal, spatial and bodily-kinaesthetic.

Although literature does not present any proven facts about general representation and distribution of multiple intelligences in a class, because the results

of surveys can vary in various classes; still, with the respect to the developmental psychology the great representation of interpersonal intelligence can be supported by the claims of Hoffman at al. (1988, 245) that "within the peer group, children may find emotional security; norms for their behaviour; instructions in genitive, motor, and social skills, and stimulating company."

As far as the textbook and the workbook of English are concerned, they usually focus mainly on linguistic, logical-mathematical, spatial, intrapersonal and interpersonal intelligences. This fact partially supports the theory of the modern educational system. According to Gardner (1999, 361) "to the front [of interests] is given the combination of linguistic and logical-mathematical intelligences and people are expected to work critically with a text and simultaneously use the processes of abstraction and synthesis, [...] The invention of computers and other technologies causes that a word itself loses its meaning; [...] The modern educational system more and more appreciates logical-mathematical abilities and certain parts of linguistic intelligence, and together with them develops intrapersonal intelligence, which was nearly unknown before." Gardner (1999, 361) also claims that the importance of interpersonal relations remains unchanged.

The analysis of the textbooks also showed that some multiple intelligences are not represented in the parts of the unit. The unit does not respect bodily-kinaesthetic and musical intelligence in every part, while naturalistic intelligence is not respected, at all. However, at primary school these are quite specific learning preferences that are trained in subjects such as P.E., Music or Science and therefore the pupils can support these intelligences during others school subjects, even though not during English lessons.

The research also showed that it is possible to modify or supplement the textbook so that it provides a greater variety of activities for pupils to help them demonstrate their learning. As Gardner recommends (2003, 5) "no direct educational implications follow from this psychological theory [of multiple intelligences]; but if individuals differ in their profiles, it makes sense to take this fact into account in devising an educational system".

Conclusion

The findings from the research provided several incentives that can be applied to EFL classes and consequently can be useful both for the pupils, for the teachers as well as for the researcher.

The pupils

Even if the scope of the research did not enable to investigate directly the influence of the knowledge of multiple intelligences on learners, it can be assumed that in a lesson that offers a variety of activities, every student has an opportunity to specialize and excel in *at least* one area. Thus the pupils experience success which motivates them for further work. Moreover, if pupils know their own learning styles, they can possibly have greater chance to broaden their learning skills and be successful in learning. As Gardner (1999, 329) claims that "every intellectual ability opens a certain opportunities for a person, whereas the combination of abilities enlarges the amount of opportunities of own success.

The teacher

On the basis of the survey, the teachers could realize that every pupil is different and therefore needs an individual approach. They could also find prosperous to create a learning environment that is suitable for each student. In such

an environment pupils are motivated to learn. As Gardner (1993 in Mehta 2002) suggests order to be able to assess children's multiple intelligences, the classroom environment must possess a wide range of materials and mediums that stimulate the children's different intelligences (62).

The researcher

I myself, as a researcher, have learnt many interesting facts about specific approaches in teaching/learning. Especially the theoretical conclusions helped me to understand that teaching and learning through the multiple intelligences can optimize the learning experience both for students and teachers.

On the other hand, the research also showed that it is necessary to go beyond the mere analysis of the situation in a class. Therefore, the research could be extended to subjects such as the investigation of the class environment in which teaching/learning process occurs, the teachers´ styles of teaching or the impact of multiple intelligences activities on pupils´ achievement.

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Appendixes

TEST MNOHAČETNÉ INTELIGENCE

Jméno: Tereza Trčová
Třída: 6.A

Každý z výroků ohodnoť stupněm od 0 po 2.
0 – **silně nesouhlasím**
1 – **nemám vyhraněný názor**
2 – **silně souhlasím**

		0	1	2
1 Rád/a čtu knihy, časopisy a noviny.	1		X	
2 Považuji se za dobrého čtenáře.	2	X		
3 Rád/a vyprávím vtipy a příběhy.	3			X
4 Snadno si zapamatuji jména lidí.	4			X
5 Rád/a přeříkávám jazykolamy.	5	X		
6 Ve svém mateřském jazyce mám dobrou slovní zásobu.	6			X
7 Často v hlavě propočítávám věci.	7			X
8 Jsem zdatný/zdatná šachista/šachistka.	8	X		
9 Rád/a třídím věci	9			X
10 Mám rád/a hry s čísly.	10		X	
11 Rád/a hraji na počítači.	11			X
12 Často se vyptávám, jak věci fungují.	12		X	
13 Snadno se orientuji v mapách.	13			X
14 Baví mě umělecké činnosti.	14			X
15 Dobře kreslím.	15	X		
16 Video a obrazy mi usnadňují získávání informací.	16	X		
17 Mám rád/a knihy s ilustracemi.	17	X		
18 Těší mě hra s Puzzle.	18			X
19 Je pro mě těžké sedět delší dobu bez pohybu.	19	X		
20 Lehce přesně napodobuji, co jiní lidé dělají.	20	X		
21 Jsem zručný/zručná v práci se dřevem, tvoření věcí, šití.	21	X		
22 Jsem dobrý sportovec/dobrá sportovkyně.	22		X	
23 Těší mě pracovat rukama, např. modelování z hlíny.	23		X	
24 Baví mě tělesná cvičení.	24			X
25 Umím broukat melodie spousty písniček.	25			X
26 Jsem dobrý zpěvák/zpěvačka.	26		X	
27 Hraji na hudební nástroj nebo zpívám ve sboru.	27			X
28 Poznám v melodii falešný tón.	28		X	
29 Často si rytmicky poklepávám.	29			X
30 Často si zpívám písničky.	30			X
31 Děláme-li něco společně, často se postavím do čela skupiny.	31	X		
32 Rád/a se bavím s kamarády/kamarádkami.	32			X
33 Často kamarádům/kamarádkám pomáhám.	33			X
34 Kamarádi/kamarádky se mi často svěřují se svými problémy.	34		X	
35 Mám spoustu kamarádů.	35			X
36 Chodím do několika kroužků/klubů.	36			X
37 Do kina chodím raději sám/sama.	37	X		
38 Studovat do knihovny chodím sám/sama.	38	X		
39 Mohu vyjmenovat pár věcí, které ovládám.	39	X		
40 Rád/a trávím čas sám/sama.	40	X		
41 Moji kamarádi některé mé činnosti považují za divné.	41			X
42 Umím se poučit ze svých chyb.	42			X
43 Trávím hodně času venku.	43		X	
44 Rád/a naslouchám zvukům v přírodě, např. zpěvu ptáků.	44			X
45 Umím pojmenovat rostliny i zvířata.	45		X	
46 Poznám jedovaté a jedlé houby a také jedovaté hady.	46	X		
47 Baví mě pozorovat rostliny nebo sbírat kameny.	47			X
48 Sám/sama pěstuji květiny na zahradě nebo v květináčích.	48			X

DĚKUJI ZA TVŮJ ČAS A SPOLUPRÁCI! ☺

Appendix 1: Questionnaire used in the class.

TEST MNOHAČETNÉ INTELIGENCE

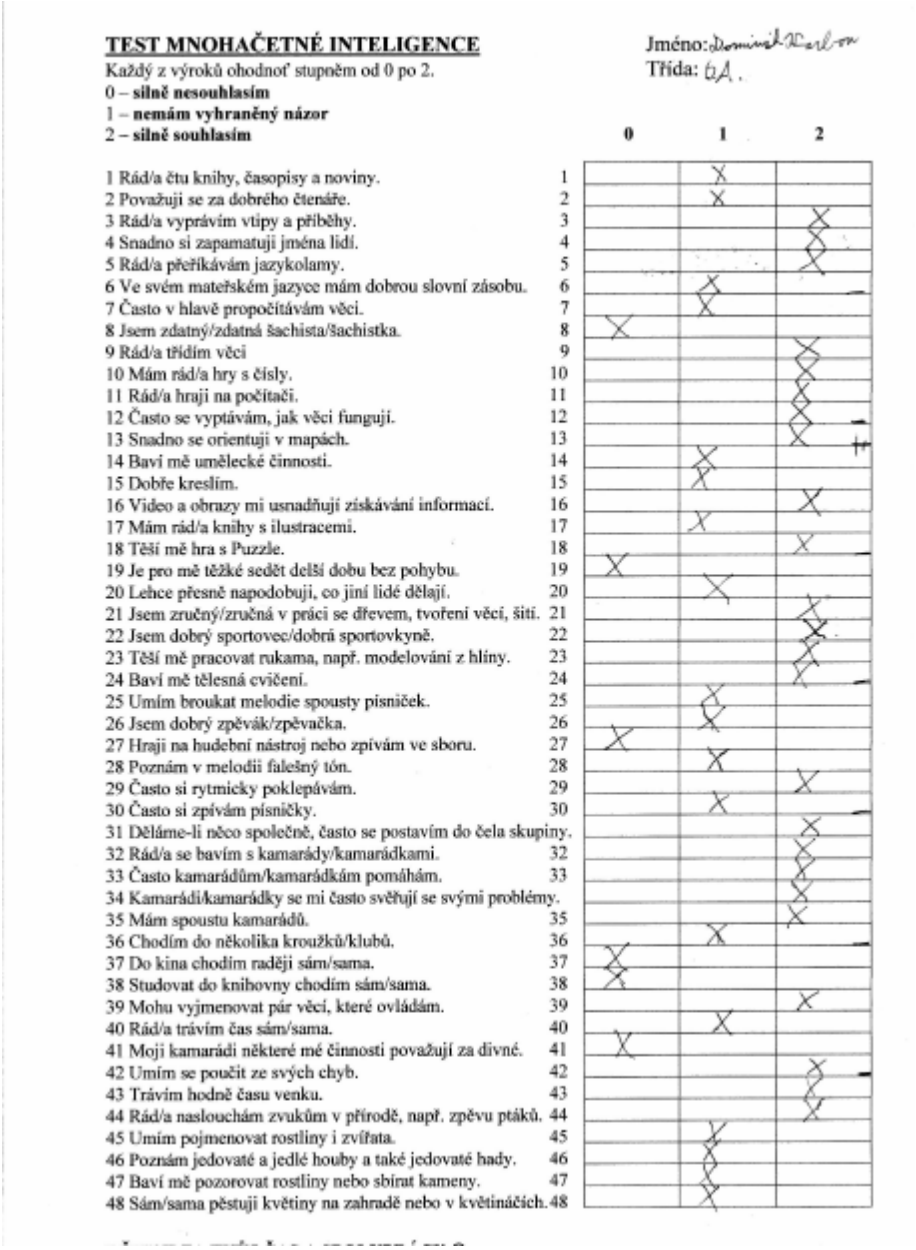
Jméno: [illegible]
Třída: 6.A

Každý z výroků ohodnoť stupněm od 0 po 2.
0 – **silně nesouhlasím**
1 – **nemám vyhraněný názor**
2 – **silně souhlasím**

		0	1	2
1 Rád/a čtu knihy, časopisy a noviny.	1			✓
2 Považuji se za dobrého čtenáře.	2		✓	
3 Rád/a vyprávím vtipy a příběhy.	3	✓		
4 Snadno si zapamatuji jména lidí.	4			✓
5 Rád/a přeříkávám jazykolamy.	5	✓		
6 Ve svém mateřském jazyce mám dobrou slovní zásobu.	6			✓
7 Často v hlavě propočítávám věci.	7	✓		
8 Jsem zdatný/zdatná šachista/šachistka.	8	✓		
9 Rád/a třídím věci	9			✓
10 Mám rád/a hry s čísly.	10		✓	
11 Rád/a hraji na počítači.	11		✓	
12 Často se vyptávám, jak věci fungují.	12	✓		
13 Snadno se orientuji v mapách.	13			✓
14 Baví mě umělecké činnosti.	14			✓
15 Dobře kreslím.	15		✓	
16 Video a obrazy mi usnadňují získávání informací.	16	✓		
17 Mám rád/a knihy s ilustracemi.	17			✓
18 Těší mě hra s Puzzle.	18	✓		
19 Je pro mě těžké sedět delší dobu bez pohybu.	19		✓	
20 Lehce přesně napodobuji, co jiní lidé dělají.	20	✓		
21 Jsem zručný/zručná v práci se dřevem, tvoření věcí, šití.	21			✓
22 Jsem dobrý sportovec/dobrá sportovkyně.	22			✓
23 Těší mě pracovat rukama, např. modelování z hlíny.	23			✓
24 Baví mě tělesná cvičení.	24			✓
25 Umím broukat melodie spousty písniček.	25			✓
26 Jsem dobrý zpěvák/zpěvačka.	26		✓	
27 Hraji na hudební nástroj nebo zpívám ve sboru.	27			✓
28 Poznám v melodii falešný tón.	28			✓
29 Často si rytmicky poklepávám.	29			✓
30 Často si zpívám písničky.	30			✓
31 Děláme-li něco společně, často se postavím do čela skupiny.	31	✓		
32 Rád/a se bavím s kamarády/kamarádkami.	32			✓
33 Často kamarádům/kamarádkám pomáhám.	33			✓
34 Kamarádi/kamarádky se mi často svěřují se svými problémy.			✓	
35 Mám spoustu kamarádů.	35			✓
36 Chodím do několika kroužků/klubů.	36			✓
37 Do kina chodím raději sám/sama.	37	✓		
38 Studovat do knihovny chodím sám/sama.	38			✓
39 Mohu vyjmenovat pár věcí, které ovládám.	39			✓
40 Rád/a trávím čas sám/sama.	40	✓		
41 Moji kamarádi některé mé činnosti považují za divné.	41			✓
42 Umím se poučit ze svých chyb.	42			✓
43 Trávím hodně času venku.	43		✓	
44 Rád/a naslouchám zvukům v přírodě, např. zpěvu ptáků.	44		✓	
45 Umím pojmenovat rostliny i zvířata.	45			✓
46 Poznám jedovaté a jedlé houby a také jedovaté hady.	46			✓
47 Baví mě pozorovat rostliny nebo sbírat kameny.	47	✓		
48 Sám/sama pěstuji květiny na zahradě nebo v květináčích.	48		✓	

DĚKUJI ZA TVŮJ ČAS A SPOLUPRÁCI! ☺

Appendix 2: Questionnaire used in the class.



TEST MNOHAČETNÉ INTELIGENCE

Jméno: Dominik Kerlon
Třída: 6A.

Každý z výroků ohodnoť stupněm od 0 po 2.
0 – **silně nesouhlasím**
1 – **nemám vyhraněný názor**
2 – **silně souhlasím**

		0	1	2
1 Rád/a čtu knihy, časopisy a noviny.	1		X	
2 Považuji se za dobrého čtenáře.	2		X	
3 Rád/a vyprávím vtipy a příběhy.	3			X
4 Snadno si zapamatuji jména lidí.	4			X
5 Rád/a přeříkávám jazykolamy.	5			X
6 Ve svém mateřském jazyce mám dobrou slovní zásobu.	6		X	
7 Často v hlavě propočítávám věci.	7		X	
8 Jsem zdatný/zdatná šachista/šachistka.	8	X		
9 Rád/a třídím věci	9			X
10 Mám rád/a hry s čísly.	10			X
11 Rád/a hraji na počítači.	11			X
12 Často se vyptávám, jak věci fungují.	12			X
13 Snadno se orientuji v mapách.	13			X
14 Baví mě umělecké činnosti.	14		X	
15 Dobře kreslím.	15		X	
16 Video a obrazy mi usnadňují získávání informací.	16			X
17 Mám rád/a knihy s ilustracemi.	17		X	
18 Těší mě hra s Puzzle.	18			X
19 Je pro mě těžké sedět delší dobu bez pohybu.	19	X		
20 Lehce přesně napodobuji, co jiní lidé dělají.	20		X	
21 Jsem zručný/zručná v práci se dřevem, tvoření věcí, šití.	21			X
22 Jsem dobrý sportovec/dobrá sportovkyně.	22			X
23 Těší mě pracovat rukama, např. modelování z hlíny.	23			X
24 Baví mě tělesná cvičení.	24			X
25 Umím broukat melodie spousty písniček.	25		X	
26 Jsem dobrý zpěvák/zpěvačka.	26		X	
27 Hraji na hudební nástroj nebo zpívám ve sboru.	27	X		
28 Poznám v melodii falešný tón.	28		X	
29 Často si rytmicky poklepávám.	29			X
30 Často si zpívám písničky.	30		X	
31 Děláme-li něco společně, často se postavím do čela skupiny.	31			X
32 Rád/a se bavím s kamarády/kamarádkami.	32			X
33 Často kamarádům/kamarádkám pomáhám.	33			X
34 Kamarádi/kamarádky se mi často svěřují se svými problémy.	34			X
35 Mám spoustu kamarádů.	35			X
36 Chodím do několika kroužků/klubů.	36		X	
37 Do kina chodím raději sám/sama.	37	X		
38 Studovat do knihovny chodím sám/sama.	38	X		
39 Mohu vyjmenovat pár věcí, které ovládám.	39			X
40 Rád/a trávím čas sám/sama.	40		X	
41 Moji kamarádi některé mé činnosti považují za divné.	41	X		
42 Umím se poučit ze svých chyb.	42			X
43 Trávím hodně času venku.	43			X
44 Rád/a naslouchám zvukům v přírodě, např. zpěvu ptáků.	44			X
45 Umím pojmenovat rostliny i zvířata.	45		X	
46 Poznám jedovaté a jedlé houby a také jedovaté hady.	46		X	
47 Baví mě pozorovat rostliny nebo sbírat kameny.	47		X	
48 Sám/sama pěstuji květiny na zahradě nebo v květináčích.	48		X	

Appendix 3: Questionnaire used in the class.